

GiHoon Kim

Ph.D. Student @ Seoul National University | Diffusion / Personalization / Multimodal

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Highlights

- First-Author Paper (ICLR Accepted).
- Multiple Open-Source Research Repositories; One Reached **65 GitHub Stars**.
- Generative Modeling Across Diffusion, 3D/NeRF, and Audio-Driven Generation.

Research Focus

- Personalized Diffusion (Distribution Drift / Identity Consistency / Semantic Anchoring)
- Multimodal Generative Modeling (Text-to-Image / Video Generation)
- Controllable Generation, Diffusion for Inverse Problems

Publications

Preserve and Personalize: Personalized Text-to-Image Diffusion Models without Distributional Drift (Paper)
ICLR 2026 Accepted

GiHoon Kim, Hyungjin Park, Taesup Kim

Semantic Anchoring for Robust Personalization in Text-to-Image Diffusion Models (Paper)
Under review (arXiv 2025)

Seoyun Yang*, GiHoon Kim*, Taesup Kim

NeRFFaceSpeech: One-shot Audio-driven 3D Talking Head Synthesis via Generative Prior (Paper)
CVPR Workshops 2024

GiHoon Kim, Kwanggyoon Seo, Sihun Cha, Junyong Noh

HairNeRF: Geometry-Aware Image Synthesis for Hairstyle Transfer (Paper)
ICCV 2023

Seunggyu Chang, GiHoon Kim, Hayeon Kim

Assessing Socio-Cultural Alignment and Technical Safety of Sovereign LLMs
Findings of EMNLP 2025

KyuByoung Chae*, GiHoon Kim*, Gyusung Lee*, Jaejin Lee, Taesup Kim, Heejin Kim

Real-time Dynamic Hand Gesture Learning and Classification using Fuzzy ARTMAP
ICROS 2020

GiHoon Kim, WonHyong Lee

Education

Seoul National University

Ph.D. in Data Science, Learning Adaptation Algorithm Lab

Mar 2024 – Present
Advisor: Prof. Taesup Kim

KAIST

M.S. in Culture Technology, Visual Media Lab

Sep 2021 – Dec 2023
Advisor: Prof. Junyong Noh

Handong Global University

Mar 2015 – Aug 2021

Republic of Korea Army

Sergeant

Sep 2016 – Jun 2018

Military Service: Fulfilled

Research Experience

NAVER CLOVA (Cloud)

Research Intern, Image/Vision

Sep 2022 – Mar 2023

- Developed 3D-aware hairstyle transfer and 3D-consistent generative pipelines.

Deep Learning Lab

Student Researcher

Mar 2020 – Aug 2021

Advisor: Prof. InJung Kim

- Conducted research on super-resolution, image generation, and image segmentation.

Social Interactive Robotics Lab

Student Researcher

Oct 2019 – Feb 2020

Advisor: Prof. WonHyong Lee

- Designed real-time hand gesture recognition systems integrating sensors, learning, and UI.

Autonomous Driving Lab

Student Researcher

Dec 2018 – Sep 2019

Advisor: Prof. Kang Lee

- Developed lane detection, PID control, and ROS-based system integration.

Teaching Experience

Teaching Assistant

Programming Practice, Seoul National University

Sep 2024 – Dec 2024

- Assisted programming lab sessions, grading assignments, and supporting students with Python-based programming exercises.

Teaching Assistant

Autonomous Driving Experiment Course

Sep 2019 – Dec 2020

- Assisted laboratory sessions and project-based experiments across multiple semesters (2019 summer/fall; 2020 summer/fall).

Teaching Assistant

Adaptive Resonance Theory Algorithms for Real-Time Learning

Nov 2020 – Dec 2020

- Supported lectures and hands-on exercises on ART-based real-time learning algorithms.

Research Code & Implementations

NeRFFaceSpeech: Audio-driven 3D Talking Head Synthesis

([Github](#))

- One-shot audio-driven 3D talking head synthesis using a generative NeRF prior.
- Deformation-based NeRF space for modeling speech-driven facial motion from a single reference image.
- Open-source implementation (**65 GitHub stars**).

Zero-Shot Super-Resolution

(Github)

- Zero-shot super-resolution without external training data.

Content-Controllable Motion Infilling

(Github)

- Conditional motion infilling with controllable semantic attributes.

Audio-Image Cross-Modal Generation

(Github)

- Cross-modal generation between audio and image modalities.

3D Landmark Detection

(Github)

- 3D landmark detection with uncertainty modeling.

Real-Time Dynamic Hand Gesture Learning

(Github)

- Real-time hand gesture learning and classification using Fuzzy ARTMAP.

Grants & Awards

NRF Research Encouragement Grant

Principal Investigator (Ph.D. Student)

Sep 2025 – Aug 2026

National Research Foundation of Korea

- Competitive individual research grant awarded to Ph.D. students.
- Project: "Distribution-Preserving Controllable Diffusion Image Generation."

Undergraduate Paper Award

2020

ICROS (Institute of Control, Robotics and Systems)

- Awarded for the paper "Real-time Dynamic Hand Gesture Learning and Classification using Fuzzy ARTMAP."

Additional Information

- **Skills:** Generative AI, Denoising Diffusion Model, NeRF/3D vision, video generation; Python, PyTorch, C/C++, ROS
- **Languages:** Korean (Native), English (TOEIC 905)
- **Certifications:** Craftsman Information Processing; COSPRO Python Grade 1 (Highest Rating)